



Washington's Greenhouse Gas Reporting Rule

WAC 173-441

October 2009 Workshops



GHG Reporting Rule – Today's Agenda

- General Overview:
 - WA State Policy and Legislation
 - EPA Mandatory Reporting Rule
 - Rule Development Process
 - Key Rule Elements
- Applying Thresholds
- Stationary Sources – Overview and Examples
- Mobile Sources – Overview and Examples
- Reporting Database
- Next Steps

Why is Ecology Adopting a GHG Reporting Rule?

Background - Washington Climate Change Policy and Legislation

- Governor Gregoire- Executive Order 2007-02
 - Established greenhouse gas reduction goals
 - By 2020 reduce emissions to 1990 levels
 - By 2035 reduce emissions to 25% below 1990 levels
 - By 2050 reduce emissions to 50% below 1990 levels
- HB 2815* passed in 2008 legislative session
 - Adopted the 2007 greenhouse gas reduction goals
 - Required Ecology to adopt rules for mandatory reporting of greenhouse gas emissions

*Codified in RCW 70.94.151

HB 2815 – 2008 Climate Change Legislation

- Codified primarily in:
 - Chapter 70.94 RCW: WA Clean Air Act, and
 - Chapter 70.235 RCW: Limiting GHG Emissions
- Implemented by establishing new WAC:
 - Chapter 173-441 WAC

Federal GHG Reporting Program

- EPA issued final GHG reporting rule Sept. 22, 2009
 - Applies to facilities that emit greater than 25,000 MT CO₂e per year
 - Certain suppliers of fossil fuels and industrial greenhouse gases
 - Vehicle and engine manufacturers
 - Annual reporting beginning with 2010 emissions
 - Reports due by March 31 for previous year emissions
 - Reporters self certify, EPA verifies

For more information:

<http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>

Comparison of ECY and EPA Rules

Issue	WA GHG Reporting Rule WAC 173-441	EPA Final GHG Reporting Rule
First Reporting Year	2009 emissions	2010 emissions
Report Due Date	October 31, 2010	March 31, 2011
GHGs Covered in Rule	6 Kyoto listed GHGs: CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆	6 Kyoto listed GHGs plus other fluorinated gases
Threshold – Stationary Sources	<ul style="list-style-type: none"> •2009: 25,000 MT CO₂e •2010: 10,000 MT CO₂e 	25,000 MT CO ₂ e (most sources)
Threshold – Nonroad Mobile Sources	<ul style="list-style-type: none"> •2009: 25,000 MT CO₂e •2010: 10,000 MT CO₂e 	N/A (Upstream suppliers of fossil fuels and vehicle engine manufacturers)
Threshold – Fleet of On- Road Mobile Vehicles	2,500 MT CO ₂ e	N/A (Upstream suppliers of fossil fuels and vehicle engine manufacturers)
Emissions Reported	direct and indirect emissions	Direct emissions
Level of Reporting	2009- 2011: Site/Facility level Beginning in 2012: Entity level	Facility level
Biomass	<ul style="list-style-type: none"> •Included in threshold •Reported separately 	<ul style="list-style-type: none"> •Not included in threshold •Reported separately

Federal GHG Reporting Program

- HB 2815 requires ECY rule to be consistent with the federal rule to avoid duplicate reporting.
 - Note: consistent \neq identical
- Ecology will amend its rule, as needed, to be as consistent as possible with a final EPA rule
 - ECY rule must comply with requirements of HB 2815
 - Possible legislation to be introduced during 2010 legislative session to amend HB 2815 to be more consistent with EPA final rule



WAC 173-441 GHG Reporting Rule: Development Process

- Advisory Committee
 - 8 meetings from August 2008 – May 2009
- January 2009 workshops for fleets of on-road motor vehicles
- October 2009 workshops for all reporters
- Public hearings
 - November 3 – Spokane
 - November 5 – Lacey
- Rule adoption by February 2010
- Email list serve
- Rule webpage
http://www.ecy.wa.gov/programs/air/globalwarm_RegHaze/GreenHouseGasreporting_rule.html

HB 2815: Mandatory Greenhouse Gas Reporting

- Rule elements established in statute
 - What is reported – which GHGs
 - Thresholds that trigger reporting
 - Who reports
 - When to report and who to report to
 - Biomass emissions reported separately
 - Must include a de minimis amount of emissions
 - Flexibility
 - Statute allows ECY to phase in some reporting requirements until 2012

HB 2815: Mandatory Greenhouse Gas Reporting

- Rule elements developed through rulemaking:
 - Quantification methodologies
 - How to calculate a de minimis amount of emissions
 - Report content
 - Document retention and record keeping
 - Data verification
 - How to determine reporting fees
 - Flexibility – What rule elements to phase in
 - Threshold for stationary and nonroad mobile sources
 - Site level reporting instead of entity level reporting
 - Report consistency

GHG Reporting Rule – What You Need to Report

- What you need to report:
 - The 6 key GHGs
 - Carbon Dioxide (CO₂)
 - Methane (CH₄)
 - Nitrous Oxide (N₂O)
 - Hydrofluorocarbons (HFC's)
 - Perfluorocarbons (PFC's)
 - Sulfur Hexafluoride (SF₆)
 - Direct and indirect emissions:
 - direct GHG emissions count for triggering the reporting threshold
 - once triggered, must report all direct and indirect GHG emissions

GHG Reporting Rule – Who Reports

- Owners or operators of:
 - Fleets of on-road motor vehicles
 - Source or combination of sources:
 - Stationary sources/sites (e.g. industrial facilities, boilers)
 - Mobile sources for transporting people or cargo (e.g. Nonroad mobile sources – rail, marine vessels, and aircraft)

GHG Reporting Rule – Operational Control

- Owner or operator with operational control reports
- Operational control means:
 - Authority to authorize and implement operating, environmental, health and safety policies
 - Holding a business license to operate the site or mobile source
 - Leased emissions sources: Lessee has operational control
 - Short term rentals (Leases less than 1 year) – Owner/operator of rental company (lessor) has operational control



GHG Reporting Rule – Reporting Thresholds

- Fleets of on-road motor vehicles = 2,500 MT CO₂e per year
- Stationary and nonroad mobile sources = 10,000 MT CO₂e per year (25,000 MT CO₂e for 2009 only*)
 - Stationary sources
 - Marine vessels
 - Rail equipment
 - Aircraft (instate flights only starting in 2012 *)

* *Phasing*

Draft Rule Section WAC 173-441-040

GHG Reporting Rule – Phasing of Reporting Threshold

- Fleets of on-road motor vehicles (2,500 MT CO₂e threshold)
 - Begin reporting with 2009 emissions reported in 2010
 - Statute does not allow phasing for fleets of on-road motor vehicles
- Sites and nonroad mobile sources
 - Reporting is phased in:
 - 2009 emissions: Report if emissions \geq 25,000 MT CO₂e
 - 2010 and future years: Report if emissions \geq 10,000 MT CO₂e



GHG Reporting – Level of Reporting

- HB 2815 requires entity level reporting
- Phasing for sites and nonroad mobile sources:
 - Site level reporting : 2009 – 2011
 - Report emissions sources on individual sites
 - Statewide transmission or distribution pipelines under same owner/operator
 - Statewide electric transmission and distribution lines, substations, switch yards, etc under same owner/operator
 - All mobile sources of the same type (marine, rail, etc) are reported as statewide fleets
 - Entity level reporting: Begins with 2012 emissions reported in 2013

GHG Reporting Rule – Phasing Timeline for Sites and Nonroad Mobile Sources

Draft Rule Subsection	Emissions Year	Reporting Level	Reporting Threshold
WAC 173-441-060(2)	2009 (2010 report)	Each site or fleet of nonroad mobile sources	≥ 25,000 MT CO ₂ e of direct emissions
WAC 173-441-060(3)	2010 (2011 report)	Each site or fleet of nonroad mobile sources	≥ 10,000 MT CO ₂ e of direct emissions
WAC 173-441-060(4)	2011 (2012 report)	Each site or fleet of nonroad mobile sources	≥ 10,000 MT CO ₂ e of direct emissions
WAC 173-441-060(5)	2012 (2013 report) and subsequent years	Combined emissions from all sites and fleets of nonroad mobile sources	≥ 10,000 MT CO ₂ e of direct emissions



GHG Reporting – When do You Report?

- Annual reporting of calendar year emissions
- Reporting begins with 2009 emissions
- Reports due to ECY by Oct 31st for the previous year's emissions
 - Example: 2009 emissions due by 10/31/2010
- Report must be certified by a designated representative

GHG Reporting Rule – Report Submittal

- Report to Ecology
 - No separate reporting to Local Air Authorities
- Plan to use TCR platform for data management
 - Online submittal
 - Will include calculation features
 - Will store basic information, streamlining reporting in subsequent years
 - Can save drafts and set up multiple user accounts

GHG Reporting Rule – Example of Web-based Reporting

CRIS: Climate Registry Information System - Windows Internet Explorer

http://64.106.211.231/eats/tcr_test/index.cfm?hc=IiIOOCAK

CRIS: Climate Registry Information System

Fuel Consumed * Gasoline (Motor Gasoline)

Quantity * 1000 gallons

Oxidation Factor 1

Calculate

CO2 (Carbon dioxide) **CH4 (Methane)** **N2O (Nitrous Oxide)**

Greenhouse Gas CO2 (Carbon dioxide)

Default Formula $[Quantity] * [Emission Factor] * [Oxidation Factor] / 1000$

Do you wish to customize these values? ☐

CH4 (Methane)

CO2 (Carbon dioxide)

N2O (Nitrous Oxide)

Back **Save Draft Emissions**

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GHG Reporting Rule – Calculating Methods

- TCR GRP = The Climate Registry's General Reporting Protocol, Version 1.1, May 2008

<http://www.theclimater registry.org/resources/protocols/>

GHG Reporting Rule – Calculating Emissions from Stationary Sources

Combustion Emissions	Quantification Method
Oil or petroleum refinery	WAC 173-441-510 through 530
All other stationary combustion	TCR GRP Ch. 12 – multiple tiers
Draft Rule Section WAC 173-441-100(4)(a)	



GHG Reporting Rule – Calculating Emissions from Stationary Sources, *cont.*

Fugitive Emissions	Quantification Method
Ref/Air conditioning	TCR GRP Ch. 16
SF ₆ from electricity transmission and distribution	TCR GRP Appendix E.5
Industrial landfill operations	WAC 173-441-540
Industrial wastewater treatment plants	WAC 173-441-550
Municipal wastewater treatment plants	Local Gov't Operating Protocol (Sept. 2008)
Coal piles	WAC 173-441-560
Other	Consult with ECY

GHG Reporting Rule – Calculating Emissions from Stationary Sources, *cont.*

Process Emissions	Quantification Method
Aluminum	TCR GRP Appendix E.2
Cement	TCR GRP Appendix E.4
Iron and Steel	TCR GRP Appendix E.7
Lime	TCR GRP Appendix E.8
Pulp and Paper	TCR GRP Appendix E.10
Semi-conductor	TCR GRP Appendix E.12
NG extraction, processing, storage, transmission and distribution	WAC 173-441-500
Hydrogen plant	WAC 173-441-530
Petroleum refinery	WAC 173-441-520
Other	TCR GRP Appendix E or consult ECY



GHG Reporting Rule – Calculating Emissions from Nonroad Mobile Sources

Combustion Emissions	Quantification Method
CO ₂ , CH ₄ , and N ₂ O emissions from nonroad combustion	TCR GRP Ch. 13– multiple tiers
Auxiliary power units	TCR GRP Ch. 12 or Ch. 13
Draft Rule Section WAC 173-441-100(4)(b)	

Fugitive Emissions	Quantification Method
Ref/Air conditioning	TCR GRP Ch. 16
Draft Rule Section WAC 173-441-100(4)(d)	

GHG Reporting Rule – Calculating Emissions from On-Road Mobile Sources

Combustion Emissions	Quantification Method
CO ₂ emissions	TCR GRP Ch. 13 – multiple tiers
CH ₄ and N ₂ O emissions	TCR GRP Ch. 13 – multiple tiers
Auxiliary power units	TCR GRP Ch. 12 or Ch. 13
Draft Rule Section WAC 173-441-110(3)	

Fugitive Emissions	Quantification Method
Ref/Air conditioning	TCR GRP Ch. 16
Draft Rule Section WAC 173-441-110(3)	

GHG Reporting Rule – De Minimis

De minimis: tools to make reporting easier for small emissions sources (WAC 173-441-130)

3 Types of De Minimis in Rule:

- Exclusion de minimis – no reporting required:
 1. Site level
 2. Unit level
- Non-exclusion de minimis – must report emissions:
 3. Simplified estimation methods

1. Site Level Exclusion De Minimis

- Not required to report emissions from any site that meets the following criteria*:
 - Direct emissions < 5 MT CO₂e per year
 - Indirect emissions < 5 MT CO₂e per year
- *Applied to direct and indirect emissions separately, site may report one but not the other
- No limit to number of sites
- For entity level reporting, 2012 and after
- For stationary sites only – cannot be used for mobile sources

2. Unit Level Exclusion De Minimis

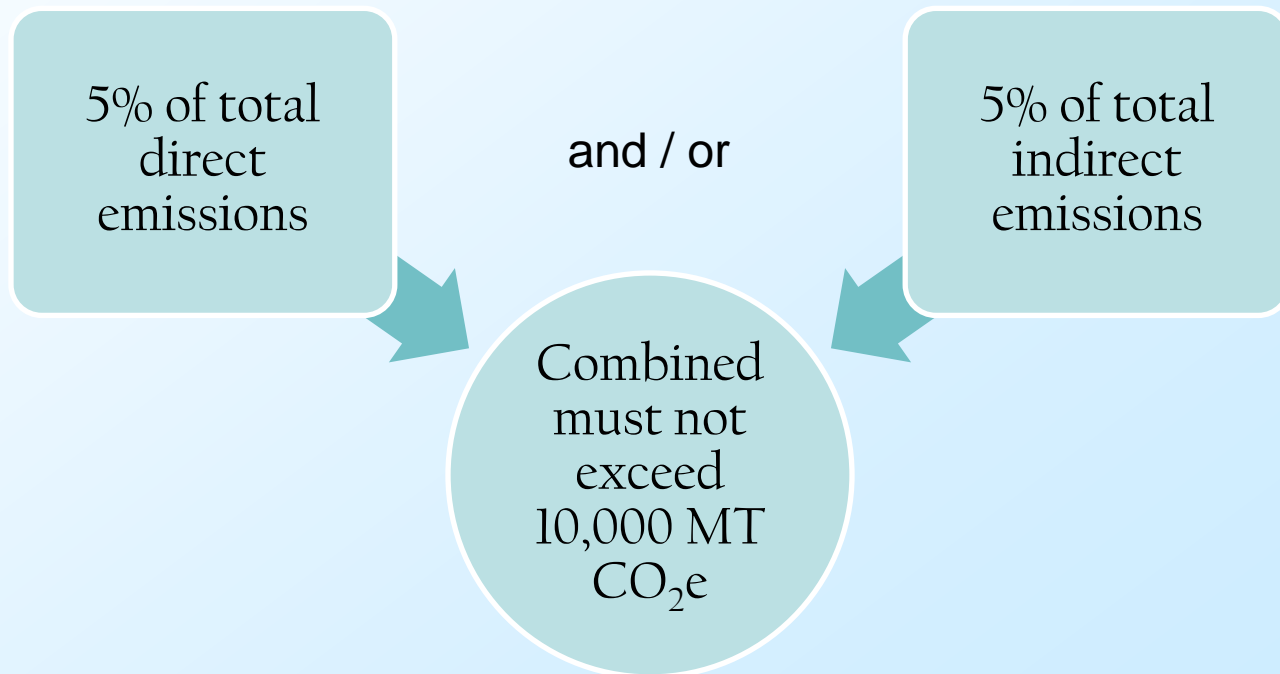
- Not required to report emissions from any unit that meets the following criteria:
 - Stationary stand alone refrigeration units < 60 ft³ capacity
 - Stationary stand alone AC units < 10,000 BTUs/hr cooling capacity
- No limit to number of units
- Applies to direct emissions only
- Must report if unit was serviced during reporting year
- For stationary units only – cannot be used for mobile sources

3. Simplified Estimation Methods

- Not exclusion – all emissions must be reported
- Allows more flexibility in quantification methods
 - Can develop own defensible method
 - Upper bound assumptions (overestimate)
- Can select by source, pollutant, or combination
- Report separately – document on report
- Based on WCI / TCR system (GRP Chapter 11)

3. Simplified Estimation Methods Limits

- Direct and indirect emissions have separate limits of 5%
- Combined must not exceed 10,000 MT CO₂e:



GHG Reporting Rule – Petitioning ECY to Use an Alternative Quantification Method

- May petition ECY to use an alternative method for calculating direct stationary GHG emissions.
- Alternative method must be widely accepted method developed by a body such as EPA, WRI, IPCC, TCR, or CARB
- ECY will approve a petition to use an EPA quantification method
- Must submit petition at least 180 days prior to deadline for submitting emissions report
- Alternative method must provide reported emissions that are accurate, consistent, and comparable
- Must use quantification methods in WAC 173-441 to calculate emissions not covered in alternative method



GHG Reporting Rule – Confidential Business Information

- Data submitted are public information
- Public reports would include totals of each GHG for the site or fleet
- Washington Public Records Act: activity data would not be confidential by default
- Reporter can request activity data be kept confidential – must meet requirements of RCW 70.94.205
- Draft rule section WAC 173-441-200



GHG Reporting Rule – Report Content

Summary of Report Content Requirements (See Draft rule section WAC 173-441-150 for complete list)	Stationary Site	On-Road Mobile	Non Road Mobile
Reporter name, address, WA Unified Bus. Identifier	X	X	X
Designated Representative name and contact info	X	X	X
Report year, submittal date and signed/dated certification statement	X	X	X
Quantification methods used	X	X	X
Activity data and/or measurement based data	X	X	X
Annual combustion emissions by fuel type or activity type, expressed in MT of each GHG	X	X	X
Annual fugitive emissions expressed in MT of each GHG	X	X	X
Annual process emissions expressed in MT of each GHG	X		
Annual indirect emissions expressed in MT of CO ₂ e	X		X
Annual total GHG emissions expressed in MT of CO ₂ e	X	X	X
Address and NAICS code for each site	X		
Biomass emissions reported separately	X	X	X

GHG Reporting Rule – Document Retention and Record Keeping

- Must retain for 5 years:
 - Information submitted in emissions report
 - List of all GHG sources included in report
 - Documentation of emissions collections process
 - Calculations and quantifications used
 - Emissions factors used
 - Log documenting procedural changes
 - Supporting documentation for measurement based methodologies
 - See WAC 173-41-160 for complete requirements

GHG Reporting Rule – Reporting Fees

- RCW 70.94.151 authorizes Ecology to charge a fee to recover the costs of administering the reporting program
- Each reporter will pay a reporting fee
- Workload analysis used to determine fee

Reporting Fees: Workload Analysis and Budget Development

Workload analysis will identify:

- Fee eligible activities (e.g. budget preparation, billing, IT support, technical support to reporters, data analysis, other clerical support)
- Resource requirements to administer the program (i.e. Staff to perform the fee eligible activities, data storage and retrieval systems)
- Budget is based on the resource requirements

Reporting Fees: Allocation Methodology

- Flat Component
 - 20% of budget is divided by total number of reporters
 - Applies to all reporters
- Emissions Component
 - 30% of budget is divided by total number of reporters with $< 25,000$ MT of CO₂e total emissions
 - 50% of budget is divided by total number of reporters with $\geq 25,000$ MT of CO₂e total emissions
 - Does not apply to fleets of on-road motor vehicles

Example – For Illustration Only

Assumptions:

- 668 reporters
 - 400 on-road fleet reporters
 - 195 reporters with $< 25\text{k MT of CO}_2\text{e}$
 - 73 reporters with $\geq 25\text{k MT of CO}_2\text{e}$
- Annual operating budget \$350,000

NOTE: All of the numbers above are intended only to illustrate how the rule will be applied. Ecology does not currently have accurate data on the total number of reporters, the number of reporters with emissions above or below 25,000 MT, or the operating budget.

Estimated Fees for Each Component Based on Example

- Flat Component:

All reporters: $(\$350,000 \times 20\%)/668 = \105

- Emissions Component:

< 25,000 MT: $(\$350,000 \times 30\%)/195 = \538

≥ 25,000 MT: $(\$350,000 \times 50\%)/73 = \$2,397$

NOTE: These fee amounts are to illustrate an example. The actual fee amounts will be determined at a later date.

Total Reporting Fee for Each Reporter Based on Example

- On-road Fleet reporter: \$105 per reporter
- < 25,000 MT reporter: \$643 per reporter
- \geq 25,000 MT reporter: \$2,502 per reporter

NOTE: These fee amounts are to illustrate an example. The actual fee amounts will be determined at a later date.

GHG Reporting Rule – Data Verification/Self Certification

- Be sure reported greenhouse gas emissions data are accurate and consistent
- Emissions reports certified by reporter's designated representative
- Ecology reviews emissions reports



GHG Reporting Rule – Completion Timeline

Action	Target Date
CR-102 filing	September 23, 2009
CR-102 publication in state register	October 7, 2009
Workshops	October 2009
Public hearings	Early November 2009
Adoption	Late January / Early February 2010

Want to learn more?

- GHG Reporting Rule webpage:

http://www.ecy.wa.gov/programs/air/globalwarm_RegHaze/GreenHouseGasreporting_rule.html

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Questions?